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Mass testing for COVID-19

When COVID-19 struck Europe, Slovakia was quick to respond. It locked down early. Its population readily adopted face masks. At the end of April, 2020, Slovakia had the lowest COVID-19 death rate on the continent. But the second wave has proved harder to manage. On Sept 1, Slovakia had registered just over 4000 cases of COVID-19. By Oct 31, this figure had risen to nearly 60 000. The country has once again taken strong action. It imposed another lockdown and then, over the course of two weekends, became the first European nation to roll out mass testing for COVID-19.

On Oct 31–Nov 1, Slovakia tested 3.6 million of its 5.5 million inhabitants using lateral flow tests, the results of which are available within an hour. The tests reached 95% of the targeted population (children younger than 10 years and adults older than 65 years were excluded from the campaign). About 5000 testing sites were established around the country. 40 000 health-care workers, armed forces personnel, and volunteers ran the operation.

“Our primary goal was to identify the people who were most infectious, the ones who had a high viral load and were the greatest epidemiological risk”, explains Pavol Jarčuška, associate professor in the department of infectology and travel medicine at PJ Šafárik University (Košice, Slovakia) and member of the Government’s scientific advisory committee. A pilot scheme in the north of the country had seen a 60% drop in positive results between the two rounds of testing. The lateral flow tests used by Slovakia are associated with a false negative rate of around 30%. “We knew this prior to testing”, said Jarčuška. “But the

test is very effective at detecting those with a high viral load. It misses some people with lower viral loads, but these people are not so infectious”.

The first weekend yielded 38 359 positive results, which translates to a disease prevalence of 1.06%. Those who tested positive were required to continue adhering to the strictures of the lockdown. Slovaks who received a negative test result were given a certificate that allowed them to travel freely. The following weekend, Slovakia tested 2 million people in the regions where a high prevalence of COVID-19 had been identified.

Anne Wyllie, associate research scientist in epidemiology at Yale School of Medicine (New Haven, Connecticut, USA) welcomed the effort. “Mass testing offers an opportunity to reset where you are in the pandemic”, she told *The Lancet Microbe*. “You can identify cases and hotspots and start the process of contact tracing; it means you have a good shot at breaking chains of transmission”. But she stressed the importance of supportive measures. Slovakia offers accommodation for those who cannot easily self-isolate in their homes. It also compensates workers who have to take time off after a positive test result. This is an important incentive, especially given the possibility of false positives. Testing 3.6 million people with a test with a specificity of 99.7%, for example, would result in 10 800 individuals being wrongly advised to self-isolate.

On Nov 6, 2020, Liverpool became the first place in the UK to trial mass testing. Anyone who lives or works in the city is eligible for a lateral flow test; those who test positive are offered confirmatory RT-PCR testing.

As of Nov 20, 90 429 residents had been tested using lateral flow, out of a total population of 500 000, 629 of whom had tested positive. “The pilot will help to inform a blueprint for how mass testing can be achieved and how fast and reliable COVID-19 testing can be delivered at scale”, noted a press release from the Department of Health and Social Care.

Mike Gill, former regional director of public health in the southeast region of England, has misgivings. “If you are going to start screening people, the aim has to be to reduce transmission. The main means of doing this is self-isolation, and we know this is going very badly in the UK”, he explained. “Simply finding more cases will not do anything to reduce the burden of disease; indeed, it may even make things worse, if it is not done systematically”.

Gill pointed out that a programme organised on a general invitation basis, rather than by call and recall, could end up screening only those at least risk from COVID-19. “Who is going to take time off work to queue in the rain, and open up the possibility of having to take even more time off if they receive a positive result?”, he asked. “The way things stand in the UK, pushing mass testing amounts to applying more pressure to the weakest link in the chain”. The government clearly disagrees. As *The Lancet Microbe* went to press, Prime Minister Boris Johnson unveiled plans to roll out mass testing in parts of England where COVID-19 is particularly widespread.

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For more on Slovakia’s mass testing programme see <https://korona.gov.sk/de/informationen-zur-landesweiten-testung-auf-covid-19/>

For more on mass testing in Liverpool see <https://liverpool.gov.uk/communities-and-safety/emergency-planning/coronavirus/how-to-get-tested/testing-faqs/>

For the Department of Health and Social Care press release see <https://www.gov.uk/government/news/liverpool-to-be-regularly-tested-for-coronavirus-in-first-whole-city-testing-pilot>